

CLAIMS

1. A pharmaceutical composition containing a substance which inhibits the proliferation of synovial cells.
- 5 2. The pharmaceutical composition according to claim 1, wherein the substance which inhibits the proliferation of synovial cells is an expression-inhibitory substance for Synoviolin.
3. The pharmaceutical composition according to claim 2, wherein the expression-inhibitory substance for Synoviolin is a substance which inhibits the expression of a
10 gene encoding hsHRD3.
4. The pharmaceutical composition according to claim 3, wherein the substance which inhibits the expression of a gene encoding hsHRD3 is a siRNA or shRNA against the gene encoding hsHRD3.
5. The pharmaceutical composition according to claim 3 or 4, wherein the gene
15 encoding hsHRD3 contains a DNA selected from the following (a) or (b):
 - (a) A DNA consisting of the nucleotide sequence as shown in SEQ ID NO: 1;
 - (b) A DNA which hybridizes to a DNA complementary to a DNA consisting of the nucleotide sequence as shown in SEQ ID NO: 1 under stringent conditions, and encodes a protein having hsHRD3 activity.
- 20 6. The pharmaceutical composition according to claim 4, wherein the siRNA targets a portion of the nucleotide sequence as shown in SEQ ID NO: 1.
7. The pharmaceutical composition according to any one of claims 1 to 6, which is used for diagnosing or treating at least one disease selected from the group consisting of rheumatoid arthritis, fibrosis, arthritis, cancers, and cerebral neural
25 diseases.
8. A method of inhibiting the proliferation of synovial cells, characterizing inhibiting the expression of hsHDER3 in synovial cells.
9. A method of inducing apoptosis in synovial cells, cancer cells, leukemia or malignant tumors, characterizing inhibiting the expression of hsHRD3 in the
30 synovial cells.
10. A method of inhibiting collagen production in synovial cells, pulmonary fibrosis or hepatocirrhosis, characterizing inhibiting the expression of hsHRD3 in synovial cells.

11. A method of inhibiting interleukin-6 production in at least one cell selected from the group consisting of synovial cells, cancer cells, leukemia cells, osteosarcoma cells, malignant tumor cells, immune system cells and osteoclast cells, characterizing inhibiting the expression of hsHRD3 in synovial cells.

5 12. The method according to any one of claims 8 to 11, wherein the expression of hsHRD3 is inhibited by binding inhibition between hsHRD3 and Synoviolin.

13. A pharmaceutical composition containing a substance which inhibits interleukin-6 production.

10 14. The pharmaceutical composition according to claim 13, wherein the substance which inhibits interleukin-6 production is an expression-inhibitory substance for Synoviolin.

15. The pharmaceutical composition according to claim 14, wherein the expression-inhibitory substance for Synoviolin is a substance which inhibits the expression of a gene encoding hsHRD3.

15 16. The pharmaceutical composition according to claim 15, wherein the substance which inhibits the expression of a gene encoding hsHRD3 is an siRNA or shRNA against the gene encoding hsHRD3.

17. The pharmaceutical composition according to claim 15 or 16, wherein the gene encoding hsHRD3 contains a DNA selected from the following (a) or (b):

20 (a) A DNA consisting of the nucleotide sequence as shown in SEQ ID NO: 1;

(b) A DNA which hybridizes to a DNA complementary to a DNA consisting of the nucleotide sequence as shown in SEQ ID NO: 1 under stringent conditions, and encodes a protein having hsHRD3 activity.

25 18. The pharmaceutical composition according to claim 16, wherein the siRNA targets a portion of the nucleotide sequence as shown in SEQ ID NO: 1.

19. The pharmaceutical composition according to any one of claims 13 to 18, which is used for diagnosing or treating at least one disease selected from the group consisting of rheumatoid arthritis, multiple myeloma, Castleman's disease, Crohn's disease, systemic juvenile idiopathic arthritis, systemic lupus erythematosus, and osteoporosis.

30 20. The pharmaceutical composition according to any one of claims 13 to 18, which can inhibit inflammatory reactions.